

ARTICLE-ORIENTING CONVEYOR

Abstract

A conveyor for orienting and registering articles in a preferred orientation and position for accurate downstream processing. The conveyor includes a conveyor belt running in a conveyance direction next to an orientation belt running parallel in an opposite direction or more slowly in the same direction. The orientation belt has upstanding structure, such as flights, or a high-friction surface. The conveyor belt includes article-supporting rollers on a top side. The rollers are arranged to rotate about axes oblique to the conveyance direction. The rollers also extend below the bottom side of the belt and are rotated by dynamic contact with bearing surfaces supporting the belt as it advances in the conveying direction. The rotating rollers direct conveyed articles toward a side rail. If a portion of a conveyed article extends past the side edge of the conveyor belt into the path of the orientation belt, the obstructions or high-friction surface of the slower- or oppositely-moving orientation belt strikes the conveyed articles and cause them to rotate clockwise toward an alignment of the article in the conveyance direction and into registration against the side rail at

the downstream end of the conveyor. In other versions of the article-orienting conveyor, the orientation belt is replaced by a row of posts or a rotating paddle wheel that strikes conveyed articles extending past the side edge of the conveyor belt.